49 CFR Part 179

[Docket No. HM-174; Amdt. No. 179-27A]

Specifications for Tank Cars

AGENCY: Materials Transportation Bureau, Research and Special Programs Administration, DOT.

ACTION: Final rule; response to petitions for reconsideration and resulting amendment.

SUMMARY: The Materials Transportation Bureau (MTB) received petitions for reconsideration from the Association of American Railroads (AAR), the Compressed Gas Association (CGA), the National LP-Gas Association and the Railway Progress Institute. All petitioners request that MTB rescind the specifications for safety valves for specification 105 tank cars used for the transportation of flammable gases and ethylene oxide. As an alternative to rescinding the safety valve requirements, the AAR proposed that the compliance date be postponed to April 1, 1982, to provide the AAR Tank Car Committee an opportunity to study the question of safety valve sizing for flammable gases.

MTB and the Federal Railroad Administration (FRA) have reviewed the safety valve requirement and still believe that the safety valve must be sized to provide protection in rail accident environments, including accidents involving overturned cars and fire. MTB and FRA believe that the safety valve discharge capacity requirement in the final rule provides an appropriate level of safety. Therefore, MTB denies petitioners' request to rescind the safety valve requirement. However, MTB and FRA have reconsidered the safety valve requirement for specification 105 tank cars which transport ethylene oxide and will extend the compliance date for the safety valve requirement for this hazardous material to September 1, 1982. The extension of the compliance date to September 1, 1982, will permit the full AAR Tank Car Committee and other interested parties adequate time to consider safety valve sizing for specification 105 tank cars that transport ethylene oxide.

EFFECTIVE DATE: August 20, 1981.

FOR FURTHER INFORMATION CONTACT: Leavitt A. Peterson (Office of Safety), Federal Railroad Administration, 400 Seventh Street, SW., Washington, D.C. 20590, (202) 426-0897

SUPPLEMENTARY INFORMATION: MTB received four petitions for reconsideration of the final rule issued in Docket HM-174 (46 FR 8005, January 26, 1981). While each petition contained its own views, the primary area of reconsideration concerned the safety valve sizing requirements. The petitioners did not submit any new information to support their views on the adequacy of the safety valve sizing methods presently used for specification 105 tank cars. MTB and FRA have reviewed the supporting material contained in Dockets HM-144 and HM-174 for flammable gases. Several petitioners recommended that MTB continue to use the CGA-AAR type valve sizing equations which had been used for 40 years prior to the adoption of the safety valve sizing requirement of HM-144. One petitioner pointed out that MTB used this "traditional" formula in Docket HM-167, Intermodal (IM) Portable Tank Specifications. IM portable tanks, which are generally transported as single units, are used to transport hazardous materials that are liquids at ambient temperatures and pressures. This is quite different from a flammable gas that is compressed to liquefy it for transportation and storage. Additionally, it is not uncommon to find several tank cars involved in a train derailment thereby increasing the opportunity for one damaged tank car to supply fuel for a fire that could cause other tank cars to rupture. Therefore, MTB and FRA believe that the safety valve sizing method used for 105 tank cars should not be the same as the method used for IM portable tanks.

One petitioner took exception to the requirements for head and thermal protection. The commenter contends that the application of top and bottom shelf couplers affords sufficient protection to jacketed/insulated 105A tank cars. The commenter provided no new information to support this view beyond the factors which were previously considered during the HM-174 rulemaking proceeding. Therefore, no change in the head and thermal protection requirements is being adopted.

One petitioner expressed concern over the inclusion of ethylene oxide in the same category as propane. Although ethylene oxide does not meet the DOT definition for a flammable gas, MTB included ethylene oxide in the final rule because of its similar properties. Ethylene oxide is so close to being a flammable gas that the UN Recommendations and the IMCO Dangerous Goods Code classify it as a flammable gas. The petitioner suggested that the use of a larger safety valve may decrease the level of safety by reducing the effectiveness of the protective inert gas blanket and also expressed the view that, once auto-ignition occurs, the internal pressure of the tank car makes little difference.

The final rule added ethylene oxide as an additional commodity to the list of commodities previously covered in HM-144. Although the notice of proposed rulemaking in HM-174 proposed to require the larger safety valve on all newly constructed 105 tank cars and, hence, on cars built to carry ethylene oxide, the special focus on ethylene oxide as a commodity subject to the requirement did not occur until the final rule stage. It appears to MTB that once the focus turned to ethylene oxide, genuine concerns, albeit speculative ones at this point, began to develop about the impact of the larger valve for ethylene oxide because of its unique characteristics. Ethylene oxide is a flammable liquid which is toxic and corrosive. Once ignited, ethylene oxide will burn inside a tank car without additional oxygen.

MTB and the FRA are not persuaded by the scant information in petitions that the larger safety valve for ethylene oxide is less safe. Neither is MTB nor FRA persuaded that the safety benefits attributable to a larger valve are irrelevant for cars carrying ethylene oxide. However, MTB is extending the compliance date for the safety valve sizing requirement on specification 105 tank cars used to transport ethylene oxide to September 1, 1982, to afford the full AAR tank car committee and other interested parties an opportunity to study the question of safety valve sizing for ethylene oxide and to submit the results of any studies for review and consideration. MTB requests that any new information relating to this matter be submitted no later than June 1, 1982.

Findings and Amendment

In consideration of the foregoing, MTB hereby denies the requested modifications contained in all petitions for reconsideration under Docket HM-174 except to the extent relief is provided by the delay of the compliance date for safety valve sizing for specification 105 tank cars used to transport ethylene oxide.

In consideration of the foregoing, 49 CFR 179.102-12(a)(9) is revised to read as follows:

§ 179.102-12 Ethylene oxide.

(a) * * *

(9) Each tank built after August 31, 1981, shall be constructed in accordance with class 105J, except that the safety

relief valve requirements of § 179.106–2(c)(4) shall not apply. Each tank built after August 31, 1982, shall be constructed in accordance with class 105J.

(49 U.S.C. 1803, 1804, 1808; 49 CFR 1.53, Appendix A to Part 1)

Note.—The Materials Transportation Bureau has determined that this document will not result in a "major rule" under the terms of Executive Order 12291 and does not require a Regulatory Impact Analysis, nor does it require an environmental impact statement under the National Environmental Policy Act (49 U.S.C. 4321 et seq.). I certify that this document will not have a significant economic impact of a substantial number of small entities. A regulatory evaluation and an environmental assessment for the actions taken in HM–174 are available for review in the docket.

Issued in Washington, D.C., on August 20, 1981.

L. D. Santman,

Director, Materials Transportation Bureau.

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